

## Galileo II crew joins study



Donald R. Mulholland, Chief of the Airborne Science Office, contacted Ames Public Affairs Office the end of last week to report good news from Dakar, Senegal, Africa.

The Ames CV-990 "Galileo II" arrived on schedule in Dakar on Monday evening at 6 p.m., June 24. No difficulties were experienced in the ferry flight which went via San Juan, Puerto Rico. Galileo II began its participation in the Global Atmospheric Research Program (GATE) last Friday, June 28. The GATE project is an international effort to understand the tropical atmosphere and its effect on global weather patterns during the summer months.

## Five year anniversary First man landing on the Moon

Five years ago in July 1969 an estimated one-sixth of the people on Earth listened as a dream of the ages was fulfilled.

"Houston, Tranquility Base here. The Eagle has landed."

Men had landed on the Moon. It was 4:18 p.m. Eastern Daylight Time.

Astronauts Neil A. Armstrong and Edwin E. "Buzz" Aldrin had left Earth along with their fellow crewman Michael Collins four days earlier at 9:32 a.m. EDT. Collins remained in the Apollo Command Module "Columbia" in orbit about the Moon as Armstrong and Aldrin descended to the surface in the Lunar Module "Eagle."

The flight outward from Earth was flawless. This much of the journey had been done before in Apollo 8 and Apollo 10, missions designed to test Apollo equipment at lunar distances from Earth but not equipped to land.

For some six and a half hours after landing, Armstrong and Aldrin made preparations for leaving Eagle and exploring the Moon on foot. As millions on Earth watched through television Armstrong climbed down the ladder of Eagle and placed his left foot on the Moon. "That's one small step for a man, one giant leap

for mankind," he said at 10:56 p.m. EDT.

Then for two and a half hours Armstrong and Aldrin walked, hopped, collected samples, deployed scientific experiments and the United States flag. Their activities were carried live by television to viewers on Earth.

Next day, at 1:54 p.m. EDT Eagle lifted off the Moon and just under four hours later docked with orbiting Columbia. The journey back to Earth began at 12:56 a.m. EDT on July 22. Three days later, at 12:51 p.m. July 24 Columbia landed in the Pacific Ocean 825 nautical miles southwest of Hawaii. Later the three Apollo 11 crewmen heard President Richard Nixon on the Recovery Ship USS Hornet say "As a result of what you have done, the world's never been closer together."

In addition to fulfilling man's dream of reaching the Moon, the goal set eight years before was achieved. It was on May 25, 1961 that President John F. Kennedy said, "I believe that this nation should commit itself to achieving the goal, before this decade is out, of landing a man on the Moon and returning him safely to Earth."

## 1978 Pioneer Venus probe scientific investigators named

Thirty-nine scientists have been chosen by NASA to provide the experiments for two Pioneer spacecraft destined for Venus in 1978. Ames manages the Pioneer Venus project.

The teams, including one scientist each from France and Germany, were selected from among 162 scientists who submitted proposals in response to a NASA invitation last year.

Primary objective of the twin missions is to study Venus and its environment. A detailed investigation of Venus' atmosphere and clouds will be conducted, which could obtain information leading to a better understanding of our own atmosphere.

The scientists will participate in experiments dealing with the composition and structure of the Venus atmosphere down to the surface, the nature and composition of the clouds, the circulation pattern of the atmosphere, and the radiation field in the lower atmosphere. The upper atmosphere and the magnetic and radiation environment of the planet will also be studied.

Nine members of the team will serve as Participating Theorists, coordinating the various experiments and participating in the analysis of the returned information.

NASA will utilize two Pioneer-class spacecraft for the mission. One of the spacecraft will launch four scientific

probes toward the surface of Venus and then enter the atmosphere itself, transmitting additional data to Earth until it burns up.

The sister ship will have been placed in orbit around the cloud-shrouded planet about a week earlier to study the planetary conditions before entry of the probes.

The probe portion of the mission will utilize a bus, a large probe and three small probes. The spacecraft will be spin-stabilized, use solar power, and will weigh, including probes, about 1,850 pounds at launch. The trip from Earth to Venus will take 125 days, and will include two or three mid-course maneuvers.

The probes will be separated from the bus 10 to 20 days before entry. The large probe will carry about 62 pounds of science instrumentation, and provide 90 watts of power. Each small probe will carry 4.7 pounds of instrumentation, consuming 5 watts of power.

The large probe will take a little more than one hour to descend through the atmosphere. The small probes will fall free to the surface. Their mission is designed to end when they reach the surface, almost 60 minutes after entry.

The bus will be targeted to enter the Venus atmosphere at a shallow entry angle and transmit data to Earth until it

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## Cunningham earns MBA via T.V.



John Leveen (right), Chief of the Training and Special Programs Branch, presents Dennis Cunningham, Personnel Manager for Code R, with an MBA diploma which Cunningham recently earned through attending television classes at Ames in conjunction with Golden Gate University. Cunningham is the first to complete the Golden Gate University TV program offered by Ames (story on page 2).



## 747 selected for shuttle orbiter ferry flights

NASA plans to use a Boeing 747 to transport the Space Shuttle Orbiter and related Shuttle hardware cross country. The 747 also will be used in the planned approach and landing tests of the reusable Orbiter.

This new concept replaces earlier plans to install six airbreathing engines on the delta-winged Orbiter for flight testing and for ferry flights from the west coast to the Kennedy Space Center, Fla., launch site.

A new 747-100 type aircraft will be acquired from American Airlines. Cost of the aircraft is estimated at \$16 million.

The 747 will be modified and equipped with permanent fittings permitting quick installation of an Orbiter or other Shuttle hardware atop the aircraft. Studies have also determined the feasibility of ferrying the 153-foot long liquid propellant external tank atop the 747 aircraft.

Flight profile tests will start immediately on the 747 and continue through

November 1974 after which modifications will begin. Ground and flight tests of the modified 747 will commence in late 1976.

Takeoff weight complete with Orbiter and added fittings is estimated to be 775,000 pounds.

The 747 will have an estimated range of 2,320 nautical miles, sufficient for cross-country transport flights carrying either the Orbiter vehicle or other Shuttle hardware.

Becoming operational in 1980, the Space Shuttle Orbiter will be launched vertically from Kennedy Space Center, Fla., on a large expendable liquid propellant tank and two recoverable and reusable solid propellant rocket boosters. The 123-foot long Orbiter will remain in Earth orbit for designated mission durations of a week or more, reenter the atmosphere and land on a runway much like a conventional aircraft.

The initial Shuttle launch and landing site will be at the Kennedy Space Center, Fla. Later, an additional site at Vandenberg AFB, Calif., will be added.

## GOLF

The Ames Golf Club's yearly trek to De LaVeaga Golf Course in Santa Cruz (one of the toughest courses played by the club during the year) was held on Saturday, June 8.

Tournament chairmen (or is it chairpersons?), Stu and Donna Johnson report that 62 players turned out for the 'Point Par' Tournament on a beautiful, cloudless day.

The winners (or is it survivors?) of the tournament were:

First Flight: A. Petretti and B. Beam tied for 1st place; R. Ramos—3rd place; J. Lee, F. Lazzeroni, and T. Almojuela tied for 4th place.

Second Flight: 'El Sandbagger' Mike Orozco—1st place; J. Cayot—2nd place; J. Martin and S. Hing tied for 3rd place.

Third Flight: N. Krause—1st place; B. Scott—2nd place; P. Quattrone—3rd place; R. Forrest—4th place.

Fourth Flight: P. Strawbridge—1st place, S. Tardio (another sandbagger)

—2nd place; C. McCloskey—3rd place; E. Levin—4th place.

It is worthy to note that two girls, Phyllis Strawbridge and Nancy Krause, won first place in their respective flights—well done, girls!!

Simultaneously with the regular monthly tournament, the first round matches of the Club's Match Play Tournament were held at De LaVeaga. Match Play Tournament Chairman, Dave Banducci, reports the following winners of their first round matches:

Championship Flight: R. Ramos, D. Banducci, and T. Almojuela. The match between F. Lazzeroni and R. Hedlund was postponed.

Second Flight: J. Lee, D. Graham, M. Orozco, J. Martin, J. Cayot, P. Kutler, R. Sutton, and L. Walsh.

Third Flight: M. Walsh, N. Krause, T. Nelan, E. Menefee, B. Nevotti, R. Richardson, B. Scott, and A. Lopez.

Scores worthy of note: R. Ramos, 77; B. Beam, 78; and F. Lazzeroni, 79.

## Pioneer Venus probe (Continued from Page 1)

is destroyed by the heat of atmospheric friction.

Like its sister craft, the Venus orbiter will be spin-stabilized, use solar cells for power, and weigh about 1,150 pounds at launch. The trip from Earth will take about 190 days and will include two or three mid-course maneuvers.

At Venus, the orbit insertion motor will be fired to place the spacecraft in orbit. The orbiter will come as close as 125 miles to the planet's surface.

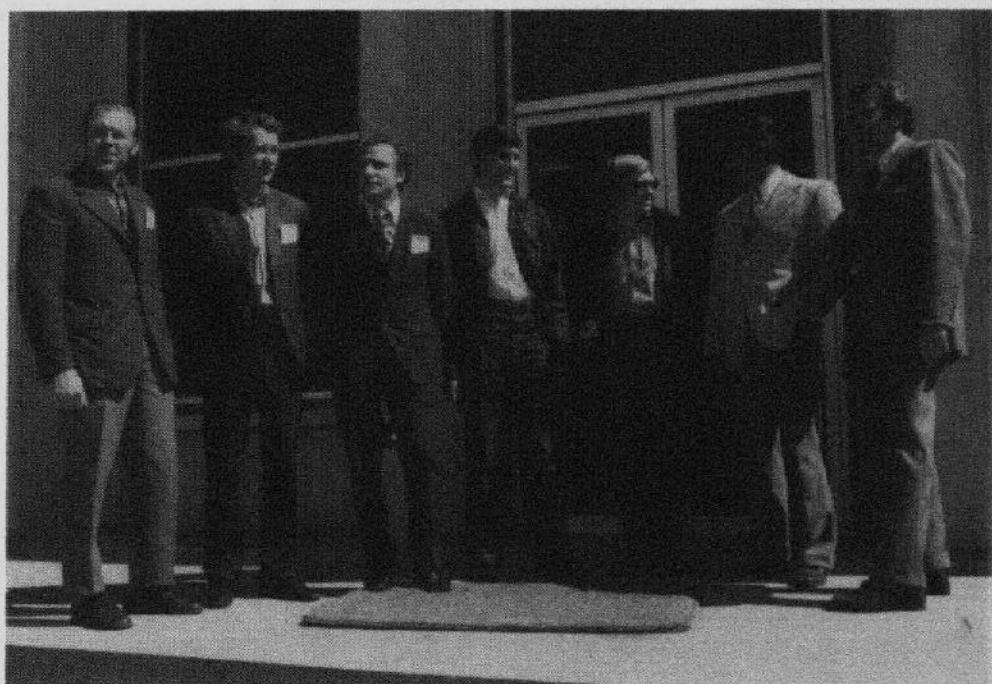
The spacecraft for the atmosphere probe is scheduled to be launched in May 1978, about three months prior to the launch of the orbiter. Both will arrive in the vicinity of Venus within a

few weeks of each other in December 1978.

By comparing the atmospheres of Venus, Mars and Earth, scientists hope to be able to construct a better model of Earth's atmosphere for use in predicting long-term changes in climate, as well as short-term effects caused by environmental pollution.

Fred Kochendorfer, NASA Headquarters, is program manager for the Pioneer Venus mission, and Paul Tarver is serving as deputy program manager. Dr. Robert F. Fellows is program scientist. For Ames, C. F. Hall is project manager and Dr. Lawrence Colin is project scientist.

## 6 USSR visitors tour Center



SIX GENTLEMEN FROM THE U.S.S.R. . . who are currently in San Francisco for the "Russian Youth Exhibit" at Golden Gate Park, toured the Center last week.

They represent a part of 28 Russians who are in the City for the Russian Youth Exhibit which extends until July 4th at the Hall of Flowers. They are (from left to right) Messrs. Cholohov, Kuznetsov, Banas, Marchenko, Dagashov, Miller (Chief of Ames Public Affairs Office) and Reznichenko.

## Ben Briggs celebrates birthday



MEMBERS OF THE AASPO STAFF . . . (i.e., Applications Aircraft Support Program Office) helped Benjamin R. Briggs (barely pictured) celebrate his 51st birthday at the office. Sort of a "surprise birthday party" with the question of the day being, "Who's going to clean up this mess?!"

## Cunningham

(Continued from Page 1)

Dennis Cunningham has just completed his Masters in Business Administration (MBA) via Golden Gate University television classes offered by Ames' Training and Special Programs Branch. Cunningham began the classes two summers ago and is the first of his Ames "classmates" to complete the MBA course with the newly available Golden Gate University program. All of the TV classes he took were offered during off duty hours.

A graduate of the University of Scranton in Pennsylvania where he obtained a BS in history, Cunningham has been at Ames since 1971. He came to Ames from NASA Headquarters as an intern assigned to the Training Branch. In 1972 he became an Ames employee and began working in the Personnel Division. Cunningham is now a personnel Manager for Code R.

## Sportmen club

Meeting will be held July 10, 1974, Room 261, Building 213, 11.45 a.m. Officers will be elected and new memberships and renewals will be accepted.

Room 142  
Admin. Mgt. Building  
Phone 965-3422

**astrogram**

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Thursday between publication dates



## "Earth 2020" lecture series

NASA has sponsored free public lecture series in the Bay Area in the summer of 1972 (Cosmic Evolution) and 1973 (The Next Billion Years). A similar program is underway this year.

This 1974 summer the lecture series is entitled "EARTH 2020: Visions for Our Children's Children" and will be given in six cities: Portland, Oregon; Honolulu, Hawaii; San Francisco, San Jose, Los Angeles, and San Diego, California. The San Jose lectures will be given at the DeAnza College Flint Center each Tuesday beginning June 25 and concluding on September 2. All lectures will start at 8:00 p.m.

An outstanding list of speakers has been assembled for this series. The speakers will examine human problems and opportunities in our finite world as they relate to questions of resources management. The lectures will be oriented toward suggesting positive solutions for present and anticipated problems rather than an enumeration of crises. The central theme of the series will be "ecology via technology rather than ecology vs. technology."

This year each one of the speakers will present his talk at Ames Research Center. The staff is invited to attend each lecture which will be given at 3:00 p.m. each Tuesday beginning on June 25, in the Ames Main Auditorium. Attendance is on a first come, first served basis.

The speaker will repeat his lecture each Tuesday at 8:00 p.m. at Flint Center on the DeAnza College campus. For those of the staff and their families who wish to attend the evening lecture, there are a few reserved seats available. These tickets are good for the entire series and may be obtained by calling the Public

Affairs Office, extension 5091. The tickets will be issued on a first come, first served basis.

Dates, subjects and speakers scheduled are as follows: 2 July, "New Ethics for Survival: Restraining Population Growth," Garrett Hardin, Professor of Human Ecology, University of California, Santa Barbara;

9 July, "The Food Revolution," Theodore W. Schultz, Professor of Economics, University of Chicago.

16 July, "Food for Our Hungry Machines," Harrison Brown, Professor of Science and Government, California Institute of Technology;

23 July, "Go or Tell: The Human Connection in 2020," John Pierce, Professor of Electrical Engineering, California Institute of Technology;

30 July, "How to Negotiate With Mother Nature," William Cooper, Professor of Zoology, Michigan State University;

6 August, "Design With Nature," Ian McHarg, Professor of City Planning, University of Pennsylvania;

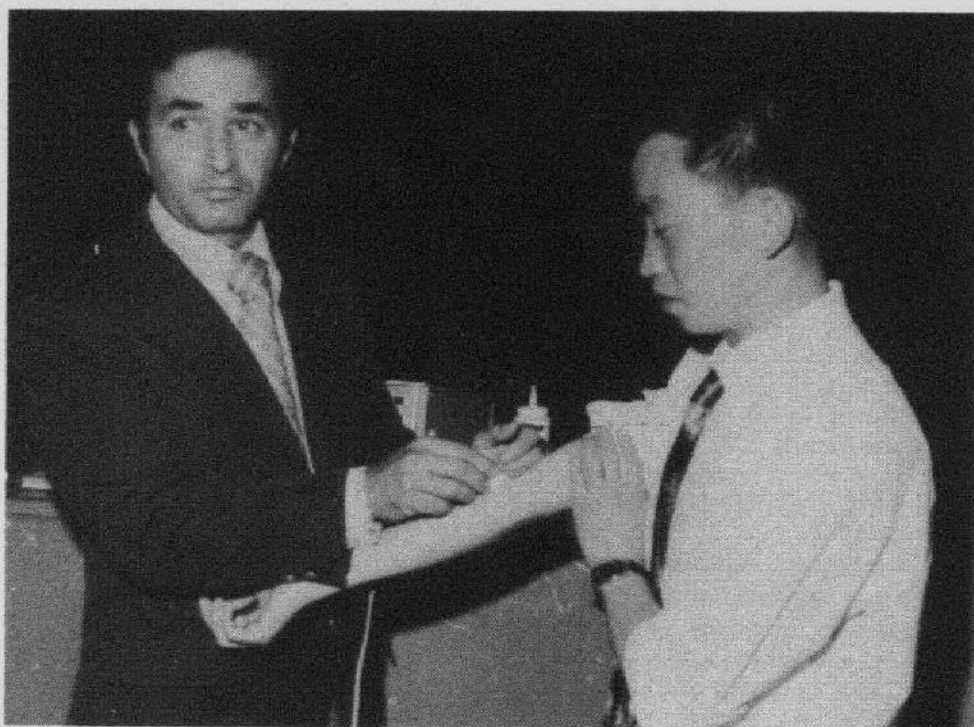
13 August, "The World Economy in 2020 Vision," Kenneth Boulding, Professor of Behavioral Sciences, University of Colorado;

20 August, "Plagues on Managing the Future," Joseph Coates, Program Manager, Office of Exploratory Research and Problem Assessment, National Science Foundation;

27 August, "A Brain for Planet Earth: Computers in Global Management," Michael Arbib, Chairman, Computer Science, and Professor of Psychology, University of Massachusetts; and

3 September, "Nation States vs. Mother Nature: A Summation," Richard Gardner, Professor of Law and International Organization, Columbia University Law School.

## Chinese "Wushu" group at Ames



Sal Rositano, with the aid of a volunteer, exhibits biomedical instrumentation to the audience at Ames from the People's Republic of China.

A "Wushu" group of Chinese men and women from the People's Republic of China visited Ames last Thursday afternoon while on tour in the San Francisco Bay Area. "Wushu" translates as "traditional Chinese sports."

The group of 30, ranging in age from 10 to 30, was given a warm welcome by Center Director, Dr. Hans Mark and Public Affairs Officer Stan Miller in the Ames Main Auditorium. With the aid of an interpreter, Dr. Mark briefly discussed aeronautics at Ames. Before the program was turned over to tour director David Wilson, one of the younger members of the group presented Dr. Mark with a small button picturing the famous building in a square of Peking, the name of which means "The Gateway to Heavenly Peace."

During the scheduled program, Sal Rositano of Ames Electro-Systems Engineering Branch presented a demonstration on biomedical instrumentation with

the aid of a volunteer from the audience. Following the demonstration Dr. Mark presented the visitors with a plaque.

The visitors toured the 40 X 80-Foot Wind Tunnel and ended their stay at the Center with the Flight Simulator for Advanced Aircraft (FSAA).

The entire U.S. tour was sponsored by the National Committee of U.S./China Relations under the auspices of the U.S. State Department. A staff of eight personnel from the State Department escorted the Wushu group, along with three Chinese liaison people from Washington, D.C.

Before arriving at Ames, the Chinese men and women visited a cattle ranch on Skyline Boulevard. Upon departure from our NASA installation, everyone was looking forward to a tour of Sunset Magazine in Menlo Park.

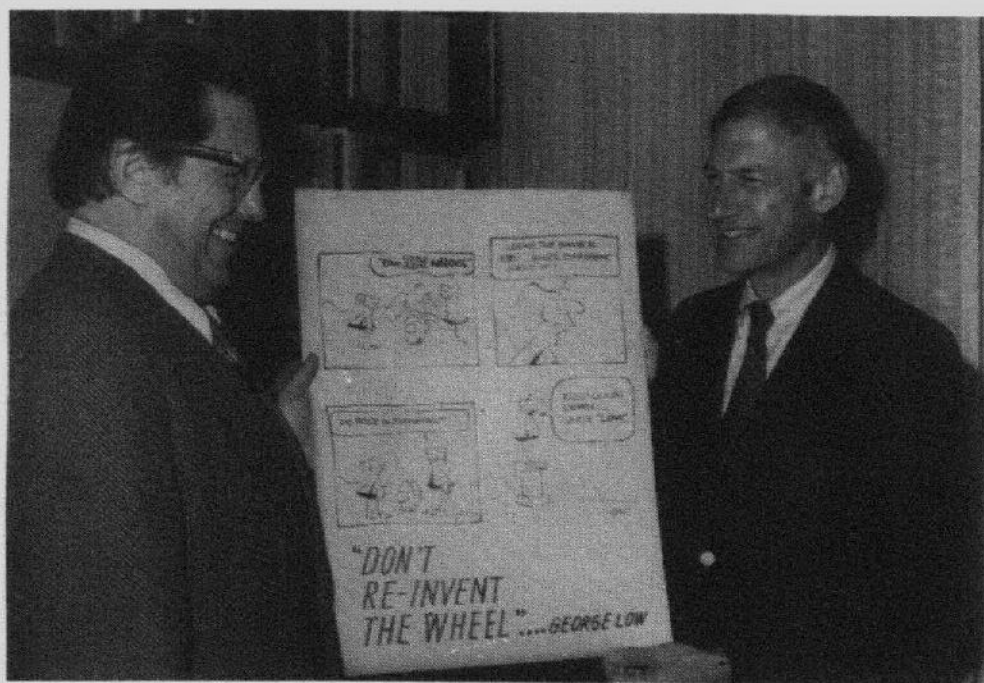
The group performed at the Masonic Auditorium in San Francisco on June 28, 29 and 30.

## Ames "Foothill DeAnza" instructors



AMES EMPLOYEES receive certificates of appreciation from Sid Davidson (far right) of the Foothill DeAnza Community College District, for their instruction of students on the work engagement program held at Ames during the year. The instructors are, from left to right, Paul Wagner, Ed Kelley, Paul Kovalak and Ray Einberger.

This summer marks the beginning of the fourth year that Ames and the Community College District have operated a work engagement program. Forty-four students work parttime (15-20 hours per week) at Ames and attend classes in the college district. Key supervisors (not pictured) of the program are Andy Bogard and Bob Gordon. Additional instructors (also not pictured) are Dick Harmon, Ed Vernon, Rus Shipp and Don Ayres.



LOW COST LOWDOWN - Dr. George M. Low, NASA Deputy Administrator, right, and Adelbert O. Tischler, Director of the newly-established NASA Low Cost Systems Office, show the first of a series of "Quote Low" cartoons by Johnny Hart designed to promote the Low Cost Systems Program throughout NASA. Purpose of the Low Cost Program is to standardize commonly used spacecraft components and to find efficient, cost-saving management techniques to carry out the NASA mission more effectively. Cartoonist Hart is donating his services for the series.



## Ames scientists present paper

Dr. David D. Feller and Dr. Richard E. Grindeland, Research Scientists of the Biochemical Endocrinology Branch, Biomedical Research Division, attended the 56th Annual Meeting of The Endocrine Society which was held at the Hyatt Regency Hotel, Atlanta, Georgia, June 12-14. Dr. Feller presented a paper entitled "Insulin-like Response of Growth Hormone (GH) in Diabetic Rats," which was authored by D. D. Feller, E. D. Neville and Stanley Ellis.

## SOFTBALL

George Alger, Ames' intrepid slugger, hit a grand-slam home run to give NASA a 4 to 0 victory over Custom House in a recent fast-pitch softball game. Alger's clutch hit was matched by Bob Corbett's superb pitching. Using his rise-ball pitch, Bob struck out 14 of 20 bewildered batters. To a batter, a good rise-ball pitch is an illusion.

In another game, NASA batters rapped 10 hits to rout RSW Trenching 8 to 0 (see box score below). Ames is now tied for first place.

NASA-AMES 8  
R. W. TRENCHING 0

PLAYERS	AB	R	H	RBI
P. Soderman LF	2	0	1	1
B. Ganzler 3B	2	0	0	0
M. Green 1B	1	1	0	0
J. Myers P	3	1	1	0
G. Alger CF	3	2	1	0
D. Ackard SS	3	2	2	1
B. Randle SF	3	1	0	0
L. Olson 2B	2	0	1	0
B. Bell C	1	0	0	0
B. Laurie RF	2	1	1	2
T. Debber SF	1	0	1	0
D. Johnson RF	1	0	1	1
B. Corbett P	2	0	1	2

TOTALS 26 8 10 7

## JOGGERNEWS

Ames joggers who have recently attained milestones in jogging are: Paul Sebesta—2500 miles. . . Bruce Castle, Robert McCracken and Frank Nichols—1000 miles. . . Bruce Ganzler, Roger Hedlund and Bruce Kelley—500 miles. . . Roger Mueller and Dora Willoughby—250 miles. The joggers welcome new members Betty Berkstresser, Bob Randle, Gil Smith and Jim Stein.

## Thank You

THANKS for the wonderful retirement party. My years at Ames will be remembered most by the many people I've had the pleasure to know and work with. The large turnout by so many of you and the thoughtful gifts are deeply appreciated. Louise and I extend an open invitation to all our Ames friends to visit us at home in Saratoga.

George Cooper

## Speakers bureau

Horace Emerson (Chief of the Technology Utilization Branch) has retired from Ames. He has presented a number of programs on the general field of technology utilization to a variety of organizations, and his contributions to the Speakers Bureau and cooperative spirit will be missed. Happy Retirement, Horace! The last two presentations Horace made were both on June 20. He addressed a group of industrial arts teachers taking a summer course at Fresno State University, and then traveled to Berkeley to inform the participants in a trade and technical "Teacher Information" class about NASA's TU accomplishments.

On June 20, S. N. Stein, M.D., (now a Guest Scientist at Ames, and formerly Chief of the Ames Medical Office) delivered a telelecture to a summer teacher workshop at the Montana College of Mineral Science and Technology in Butte, Montana. Sy's presentation, entitled "Another Side of the Moon," emphasized the medical spinoff benefits of the space program.

Knapp "Tom" Tomberlin (Procurement Division) was the guest speaker for the Menlo Park Masonic Lodge at their dinner meeting on July 3. Tom updated the group on some of the accomplishments of the Skylab missions.

George James (Pioneer Project) addressed the Management Club of Delaval Turbine Company on June 24. He told the members, whose company is in Oakland, about Pioneer 10 and 11.

Another Pioneer presentation was given by Gil Schroeder (Project Pioneer) to the 610 Mobilization Designee Detachment meeting, held at Treasure Island. He addressed the reserve unit on June 25.

On June 27 Ames hosted a visit from the San Francisco and El Camino Real Chapters of the Air Force Association. 150 members of the AFA and their guests were invited by Gil Morehouse (Ames Directorate Army AMRDL), who is a former president of the El Camino Real Chapter. Barbara Busch (Educational Programs Office) gave the group a verbal introduction to Ames, following which the group was conducted on a walking tour of selected facilities. Tour guides were Major H. Harvey Album (on detached service from Wright-Patterson A. F. Base, at Ames), Frank Lazzeroni (Army AMRDL), and Carl Tusch (Air Force Systems Command Liaison Office). Spokesmen at the facilities were Andrew Morse (7 X 10-Foot Wind Tunnel #2), David Reese (Research Aircraft in the Ames Hangar), and Victor "Torey" Stevens (Simulation Facilities).

David Reese (Chief, Aircraft Operations Division) will address the Safety Education Seminar at Hewlett-Packard on July 10. The seminar is for employees at Hewlett-Packard who are interested in general aviation or safety in flying.

## WANT ADS Transportation

FOR SALE: '68 VW Bug, light blue. Good mechanical condition, good tires, interior, radio, etc. Had regular maintenance—only 1 previous owner. 89,000 miles—only 9,000 since valve job. 24 m.p.g. We're moving east—must sell by August. \$1000 or best offer. Call: 322-7459 (after 6).

FOR SALE: '68 305T Suzuki. Rebuilt 1000 miles ago. Recently tuned, in storage for 2 years. \$300 or offer. 948-5968

1973 Apache Roamer Camp Trailer. 3-way refrig., 12,000 BTU furnace, 2 butane tanks, tire, brake, privacy curtains. \$2,800 or make an offer. Phone Konrath, 683-2017 in San Martin.

## Housing

FOR RENT: 3 bedrm., 1 bath, near Moffett and Lockheed. Clean. Phone: 734-2877

FOR RENT: South Tahoe Cabin, new, fireplace, w/w carpet, 2 bathes, sleeps 8. Sinnott - 225-8043

## Miscellaneous

ANTIQUES—Burl walnut occasional table, burl walnut credenza, both 19th century; oak church pew, bird's-eye maple rocker. J. Barrack - 941-5535.

FOR SALE: Girls Schwinn bicycle, single speed, old, but in good condition. \$20. Call after 6 - 657-4247

SURFBOARD. 10' white/mahogany Gordon & Smith. \$50. Days—X5257, eves—964-7062, Clara.

FOR SALE: 18 in. B&W RCA TV, 4 yrs. old, \$25. Bill Wehrend - 326-7925.

DOWN PARKA. North Face "Serrow." Extra warm, extra tough shell. Hood, stuff bag. Good condition. \$50. (415) 961-8645.

FOR SALE: \$50.—Tube type stereo system including AM-FM tuner, pre-amplifier, record changer and 35 watt per channel amplifier in cabinet. D. Brocker - 377-9345.

SANGO IRONSTONE DINNERWARE—Service for eight (minus one salad plate). Two shades of green, \$45. Maple coffee table and end table, both for \$25. Call 243-1176.

BORZOI (Russian Wolfhound) puppies for sale. Roger Craig - UN 7-0220.

DISHWASHER FOR SALE: Portable, Green, top of GE line, perfect condition, \$95. Phone Dennis Cunningham, 249-4719.

POLAROID CAMERA For Sale: Model 230, accepts all Polaroid accessories, flash attachment included, \$40. Phone Dennis Cunningham, 249-4719.

FREE HALF MANX KITTENS with tails. One all black fuzzy male and one calico smooth female. 8 weeks old. Fritz - 356-6868.

RIDE NEEDED from Sunnyvale, at Sandia and Lawrence Rd., any day shift okay! Call Debbie Reynolds at X5177 or 732-4070.

## Ames "Jetsetters" Hawaii trip



Members of the Ames Jetsetters Club enjoyed an eight day trip to Hawaii the end of April. Here they pose at the Reef Towers Hotel where they stayed on their vacation. Approximately 147 members and guests participated in the delightful affair.

If any readers wish to learn more about the Hawaii Jetsetters trip or upcoming trips scheduled, just contact anyone you may recognize in the photo!





National Aeronautics and Space Administration • Ames Research Center, Moffett Field, California

## CSC contributes to AIAA/ARC Galileo Memorial Scholarship fund



REPRESENTATIVES FROM COMPUTER SCIENCES CORPORATION... presented a contribution to C. A. Syvertson, Ames Deputy Director, for the AIAA/ARC Galileo Memorial Scholarship Fund last week. Left to right are John MacKay, RKS, Galileo Fund Chairman; John Hartsfield, GTE Sylvania, Vice-Chairman, AIAA San Francisco Section; E. E. Anderson, Vice-President and General Manager, Field Services Division, Computer Sciences Corporation; C. A. Syvertson; and Dr. Richard Barnoski, Director of Bay Area Operations, Computer Sciences Corporation.

## Spanish-speaking coordinator named

NASA has announced the appointment of Alfonso J. Ludi, to the position of Coordinator for Spanish-Speaking Programs in the Office of the Assistant Administrator for Equal Opportunity Programs.

He will be primarily responsible for assuring that Spanish Americans have a full opportunity to compete with their fellow Americans for employment and advancement in NASA.

Ludi will serve as the focal point, agencywide, for implementation of the President's Sixteen Point Program. In this role Ludi will advise NASA managers and the Assistant Administrator for Equal Opportunity Programs on the employment concerns of Spanish-speaking citizens and necessary actions required to effectively accomplish the goals of the Spanish-Speaking Program.

Ludi has spent 11 years in personnel management prior to his present assignment. He was for three years a personnel programs specialist in the office of the Secretary of Transportation; one and one-half years as Regional Personnel Officer for Region I of the Federal Highway Administration (FHWA); and five years as FHWA Assistant Personnel Officer in Denver, Colorado. He is active in most major Spanish language organizations, including the American G. I. Forum.

## Earth 2020

Upcoming lectures for the Earth 2020 series presented each Tuesday at 8 p.m. at Flint Center on the DeAnza College campus include the following:

16 July: "Food for Our Hungry Machines," Harrison Brown, Professor of Science and Government, California Institute of Technology;

23 July: "Go or Tell: The Human Connection in 2020," John Pierce, Professor of Electrical Engineering, California Institute of Technology; and

30 July: "How to Negotiate With Mother Nature," William Cooper, Professor of Zoology, Michigan State University.

The staff is invited to attend each lecture which will be given at 3:00 p.m. each Tuesday in the Ames Main Auditorium. Attendance is on a first come, first served basis.

## OAST reorganized

NASA's Office of Aeronautics and Space Technology has been reorganized into two main divisions: Aeronautics and Space. The change reflects the work breakdown structure of the office.

J. Lloyd Jones, former Director of Aerodynamics and Vehicles Systems Division, is the new Deputy Associate Administrator for Aeronautics Technology. Robert E. Smylie holds the same position for Space Technology.

## International team studies possible Jupiter orbital flight

An international study team meeting held at the end of June at Ames Research Center concluded that back-up hardware from the flights of Pioneer 10 and 11 would be suitable for use in an orbital mission to Jupiter sometime in the next decade.

Composed of distinguished scientists from the United States and Europe, the Mission Definition Group established by NASA and the European Space Research Organization (ESRO) conducted two days of discussions to determine scientific goals and suitable instruments for a Pioneer-class spacecraft that could be sent to orbit the giant planet.

The Jupiter flight is one of eight potential areas of future space cooperation identified by NASA and ESRO during a joint review of space science program planning in February. Other opportunities for cooperation under preliminary study include four projects that would use the Shuttle Spacelab, a focal-plane instrument for a Large Space Telescope, a spaceflight out of the ecliptic, and an infrared earth satellite.

Information developed by NASA-ESRO study groups will be used by the space agencies to determine whether planning for these projects should continue. At present, neither side is com-

mitted in any way to implementing the projects under study.

The group meeting at ARC found the Pioneer spacecraft best suited for a study of Jupiter's unusual magnetic field and the energetic particles surrounding the planet. The first close-up measurements of the space environment around Jupiter were obtained by Pioneer 10 during its fly-by last December.

To maximize the scientific gain from a Jupiter orbital flight using a Pioneer spacecraft, about 70 percent of the 40 kilogram payload should be dedicated to the study of energetic particles and magnetic fields, with the remainder set aside for instruments capable of providing visual, ultraviolet, and infrared images, the scientists agreed.

Since the Pioneers are lightweight spacecraft, the launch vehicle might also carry a probe to descend into Jupiter's murky, unexplored atmosphere. The study group will consider this possibility in a future session.

A Pioneer orbital flight should be launched no earlier than 1980, the study team concluded. Until then, Jupiter will be out of the plane of the ecliptic, and a much more powerful rocket would be required to place a spacecraft in orbit about the planet. (Continued on Page 4)

## It pays to perform



Lorraine Vernon, Equal Employment Opportunity Officer with the U. S. Army Air Mobility R&D Laboratory (AMRDL), Ames Research Center, California, proudly accepts a Special Achievement Award from Paul F. Yaggy, AMRDL director.

The award, and \$200 cash, were presented to Mrs. Vernon for "especially meritorious performance on duty" in implementing the Laboratory's Equal Employment Opportunity Program and the Alcohol and Drug Abuse Program. Reviewing authorities identified the programs as "the finest program inspected in two years."



# Cheerful crowds gather to wish fellow employees well on retirement

During the first six months of 1974 numerous Ames employees chose to experience the final activity of their Ames career... **RETIREMENT.** Thirty-three employees retired from Ames Research Center and each had a good idea of what he or she wanted to do with their newly acquired leisure time.

The personnel, beginning with the retirees during the month of January, are as follows:

Joseph Jeremias, AAP; Vi Norcio, D; Robert A. Taylor, FAX; Paul E. Byrd, RKST; Clifton Jern, FAO; Tony Butera, RFTM; Russell Fahey, FAX; James Karas, RSI; Myles Erickson, PDS; Joseph Schrey, ASR; Bradford Wick, FS; Helen Conlan, AFAG; William Mersman, RK; Vernon Herren, APS; Edward Perkins, FA; Frank Planchon, RSS; Norman McFadden, FL; Clarence Thompson, RSS; Horace Emerson, AU; Fred Sisson, RSE; Gabriel Fox, ASR; Raymond Thomma, RSM; Roy Griffin, SC; Byron Nelson, RSP; Ira Strong, RSM; Edwin Meehan, FAOE; Enid Pate, FAX; John Dimeff, R; Thomas Hiatt, RFTE; Glen Weidlich, RFP; Wilbur Kyle, SSA; Michael Swistak, STE; and Richard Matthews, APS.

Many of these people had retirement parties which brought back bundles of memories and some nostalgic tears. The parties also brought together many Ames friends from years past. Pictured are various informal camera shots from some of the recent retirement gatherings.

Editors note: Though Pilot George Cooper retired in June of 1973 he returned to Ames on a temporary assignment this past year. His party was held this summer before his final departure.



"We would both like to thank our Ames friends for attending Will's retirement luncheon. He has fond memories of all the people with whom he has worked for many years and we both extend our thanks."

Sincerely,  
Peggy and Will Kyle

## Thank you

"I would like to thank my many friends who contributed so greatly to so much pleasurable emotion at my retirement luncheon.

The turquoise and coral pendant is lovely and the pewter pitcher exquisite. I will enjoy them thoroughly."

Enid Pate

"To my Ames friends,

I wish to take this opportunity to again thank the many friends who made my retirement a most memorable occasion. A climax to an association with a wonderful group of people. The card with all your names and gifts, I will treasure from now on.

I hope to make good use of my new fishing outfit with the survival kit close by."

Ed Meehan



## Safety hints: Jumpering auto batteries

Transferring power to a discharged battery by means of jumper cables seems a simple enough procedure. Yet, with air-conditioners and other power-using accessories demanding higher capacity batteries, there is good reason to use caution in utilizing jumper cables. The individual using jumper cables should exercise caution in his treatment of both the discharged and the booster battery for his own protection.

Since Hydrogen is present, it is necessary to make certain no sparks are caused. But equally important is the being sure never to lean over the battery itself while cables are being fixed to the terminals.

Improper use of jumper cables can result in:

1. Bodily (particularly eye) injury to the individual affixing the cables from a gush of electrolyte (sulphuric acid) through the battery vents.
2. Bodily injury of damage to the vehicles or property near the vehicles due to explosion of the battery.
3. Damage to the electrical system of either or both the stalled vehicle and the vehicle containing the booster battery.

A correct procedure for safely installing jumper cables is a five-step routine which should be followed in sequence:

1st. Make certain the stalled vehicle and that containing the booster battery do not touch. If the two vehicles are in contact, a ground connection could be established which would promote sparking during the attachment of the jumper cable to the positive terminal.

2nd. Be sure all battery-operated items — lights, radio, heater, etc., are OFF. Then set the parking brake. If automatic transmission shift to "PARK" position. (Manual transmissions should be in "Neutral.")

3rd. Take off all vent caps from both the booster and discharged batteries and cover the vents with a porous cloth. Removing the caps and covering the vents diminish the ever-present danger of either battery exploding, which can result when a fully charged battery is connected to a dead one.

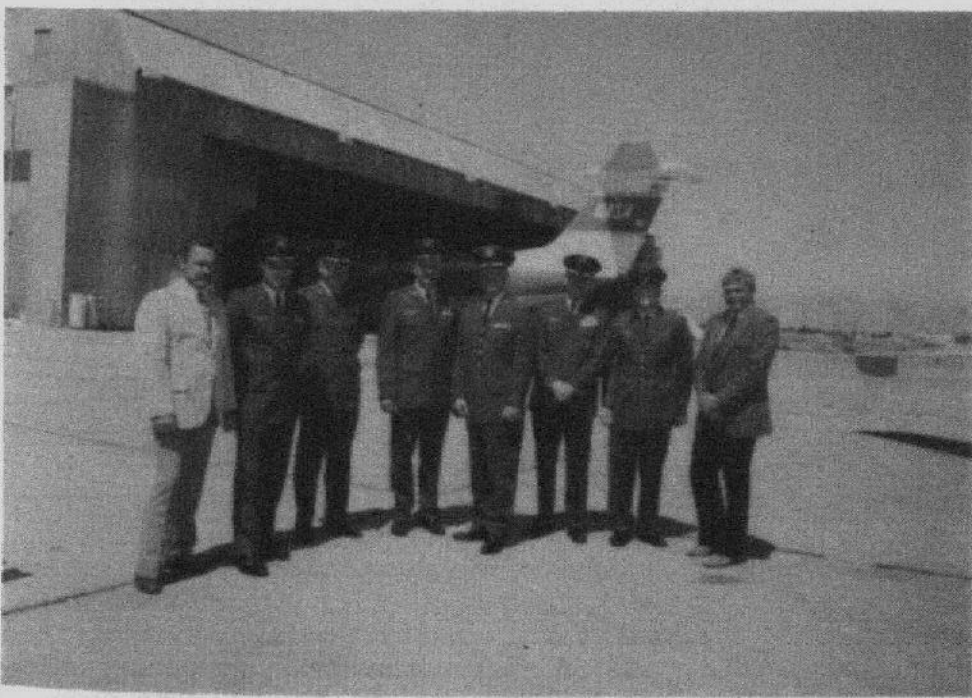
4th. Connect one end of either of the two jumper cables to the POSITIVE terminal of the booster battery... and the other end of the same jumper cable to the POSITIVE terminal of the dead battery.

5th. Now connect one end of the second jumper cable to the NEGATIVE terminal of the booster battery... and the other end of this cable to a GROUND CONNECTION no less than 12 inches from the filler openings to the discharged (dead) battery. DO NOT ATTACH THIS NEGATIVE CABLE DIRECTLY TO THE NEGATIVE TERMINAL OF THE DEAD BATTERY.

Once the engine of the disabled vehicle is started and the jumper cables are to be removed, simply reverse the five-step procedure in the exact order of the actions taken. Begin with the final action of step 5, removing the ground connection, then move backwards through step three, finally removing the cloth and replacing all the vent filler caps.

Better be safe than sorry in an old bromide, but a wise course to follow in the use of jumper cables. It may well prove to be the "ounce of prevention" that will prevent tragic and costly problems.

## State attorney general visits Ames



The Honorable Evel B. Younger, California's State Attorney General, and his staff are shown during a brief visit at Ames the end of June. Here, the State Attorney General and his staff inspect an Ames Earth Resources Survey Aircraft at the NASA hangar. A place side briefing was given by Marty Knutson of the Airborne Science Office.

## Kirk wins "Golden Bomber" award



Jerry Kirk is Ames Operations Manager of the Large Scale Aerodynamics Branch, and also Commanding Officer of Reserve Attack Squadron 304 of Alameda.

Jerry V. Kirk is the recent winner of the "Golden Bomber" award as the best attack weapons delivery pilot in his class at the Commander Light Attack Wing Pacific Fleet semi-annual Bombing Derby. He has been an Ames employee for nearly 12 years.

Flying the A-7 Corsair II jet attack aircraft, Commander Kirk, a reserve pilot, led his Weekend Warriors to victory over extremely stiff active duty competition at the Lemoore, California based meet. Competing pilots participated in day and night dive bombing, strafing and in level bomb delivery at 200 feet while traveling at 575 miles per hour. The competition is participated in by all the Navy light attack active duty and reserve squadrons on the West Coast and was established by the Commander of the Light Attack Wing of the Pacific Fleet to peak up aircraft systems and pilot skills through a competitive exercise simulating combat conditions.

Commander Kirk, a native of Goshen, Utah and a graduate of the University of Utah in the NROTC program has won more trophies than any single active duty or reserve pilot and has led his squadron to more victories at these meets than any other squadron in the history of the events. In the citation presented to him, the Commander was declared the "best A7A, A7B or A-4 pilot in the United States Navy" and his squadron was declared the "best A-7A, A-7B, or A-4 squadron."

Commander Kirk is married to the former Joanne Olson of Salt Lake City and now resides with his wife and four daughters in Fremont.

## NSTL now a NASA center

NASA Administrator Dr. James C. Fletcher announced that the NASA Mississippi Test Facility, Bay St. Louis, Mississippi, has been renamed the National Space Technology Laboratories (NSTL) and will become a permanent NASA field installation reporting directly to NASA Headquarters.

Designed and created by NASA in

1961 as part of Marshall Space Flight Center, the \$350 million facility was first established and used for static testing of the large rocket engines used in the Apollo program.

Current activities at NSTL include developmental testing of the main engine for the Space Shuttle, and an Earth Resources Laboratory.



## Speakers Bureau

On June 28, Lt. Col. Alfred Worden (Chief, Systems Studies Division) addressed California Boys State. The participants each year are several hundred high school-aged young men who attend a week conference to study government and leadership. Boys State was held on the campus of California State University at Sacramento.

And on July 12, Lt. Col. Worden traveled to Fresno to address the Red Barons banquet. The audience members were alumni of educators workshops held in the Fresno area over the past several years. The Red Barons is a world-wide organization of individuals interested in both aerospace and education.

Dr. John Wolfe (Chief, Space Physics Branch) addressed the San Rafael Rotary Club on July 8. John's presentation was on interstellar communications.

And on July 26 Dr. Wolfe will be the guest speaker at the meeting of the Foothill Amateur Radio Society. At that program John will discuss Project Cyclops.

Howard Larson (Chief, Thermal Protection Branch) was the keynote speaker at the U. S. Space Week celebration in Salt Lake City, Utah. The evening program on July 17 was cosponsored by the Utah AIAA chapter and the Utah Space Association. Howard described Ames' contributions to space shuttle development and commented on the general benefits of the space shuttle program.

Robert "Skip" Nunamaker (Deputy Manager, Pioneer Project) will be the luncheon guest of the San Mateo Rotary Club on July 25. Skip will talk to the group about the Pioneer 10 and 11 missions.

On July 22 Gilbert Schroeder (Pioneer Project) will be the guest speaker for the San Mateo Lions. He will review the Pioneer program for the club members.

Sal Rositano (Electro-Systems Engineering Branch) will be the luncheon speaker for the Civic Center Kiwanis Club on July 23. Sal will demonstrate some of the biomedical instrumentation equipment developed by Ames, and discuss the benefit implications of this phase of the space program.

Knapp "Tom" Tomberlin (Chief, Research and Development Contracts Branch) addressed the evening dinner meeting of the Menlo Park Masonic Lodge on July 3. Tom reviewed the Skylab program for the attendees.

## Possible Jupiter orbital flight

(Continued from Page 1)

The Mission Definition Group will meet again in Paris in mid-September. After studying the group's report, NASA and ESRO will decide whether further consideration should be given to an international mission of this sort.

Participants at the Ames meeting included leading scientists from the United States and Europe.

American scientists were Dr. James Van Allen, University of Iowa; Dr. Von Eshelman, Stanford University; Dr. Charles Kennel, University of California at Los Angeles; Dr. Frederick Scarf, TRW, Inc.; and Dr. John Wolfe, Ames Research Center.

European scientists included Dr. Guiseppe Colombo, University of Padua, Italy; Dr. Gerhard Haerendel, Max Planck Institute, Germany; Dr. Peter Hedgecock, Imperial College, London, England; and Dr. Gary Hunt, Meteorology Office, London.

Dr. S. I. Rasool, NASA Deputy Director of Planetary Programs, coordinated last week's session. Dr. George Haskell of ESRO will coordinate the fall meeting in Paris.

## "People oriented" volunteers wanted

The Service League of San Mateo County is looking for volunteers to assist with its project of working with "life's losers" and trying to help them become winners. Most volunteer involvement is on a one-to-one basis with a minor offender in jail or with a family member outside. It includes interviewing, tutoring, counseling, etc. Office assistance is also needed at the agency's headquarters in Redwood City. Training is provided in human relationship skills, understanding of problems of families, techniques of problem solving, and use of community resources. If interested, call Elizabeth Gheleta at 364-4664.

## Policy on outside employment

Ames employees are reminded of the NASA policy and procedures regarding outside employment as approved by the Civil Service Commission.

"Outside Employment" means any work, service, or other outside activity performed by an employee other than in the performance of his or her official duties. It includes such activities as writing and editing, publishing, teaching, lecturing, consulting services, self-employment, and other work or services, with or without compensation.

Details of this regulation may be found in the Federal Personnel Manual, Chapter 735-2-3, and in NHB 1900.1A. Standards of Conduct for NASA Employees issued October 1967.

The Ames instructions require ARC Form 214, "Request for Approval of Outside Employment," must be filed with the Personnel Office.

For further information call Mrs. Marquardt, ext 5608, Bldg. 241, Room 116.

## WANT ADS

### TRANSPORTATION

1968 VW Squareback, body and mechanical very good; needs paint (touchup) and muffler; 36,000 mi., \$1200 or best offer. Call Mike-328-6954.

1971 Honda, CB 450-K4. Rebuilt engine; Wixon fair; A-1 cond. \$950, 245-1767.

### HOUSING

For Rent: Cabin, So. Lake Tahoe, sleeps 10, near beach and casinos. 274-4285

MOUNTAIN LOT for sale at Cold Springs, just 5 miles from Dodge Ridge Ski Area. Call John Lundell, X-5370 or 252-7260.

### MISCELLANEOUS

FOR SALE - España Classical Guitar, like new, \$100. Call 736-9514.

Dinette Set - Cordova Oak oval table with expanding leaf/six chairs, green/orange floral, \$90. General Hide-a-Bed, green/orange floral, \$185. 964-3271 after 5:00 p.m.

RIDE NEEDED. Vicinity of Valparaiso & The Alameda, Menlo Park. 8-4:30. Ext. 6001.

Pool Table, regulation size, 1" slate bed w/accessories. \$375 or best offer. 289-8789 after 5:30.

Girls Tap Shoes, size 6, like new. \$6. 321-1858.

Tote (or club) bag, very little used, \$12. (A new one costs \$18 or more.) Call: 321-1858.

Back Packing Gear - Down Jacket, Down Sleeping Bag 3.5 lbs., Sierra Designs Parka, all new condition. Bob Zander, 322-9289.

5 H.P. Outboard Motor. Top condition, \$50. Call 377-6733 after July 13.

FIAT 850 factory shop manual (in English), also new tune up kit. Call John Terandin, 494-0461

Calculator: Texas Instrument SR-10, like new, less than one year old, only \$75. Call Steve after 5 p.m., 294-7521.

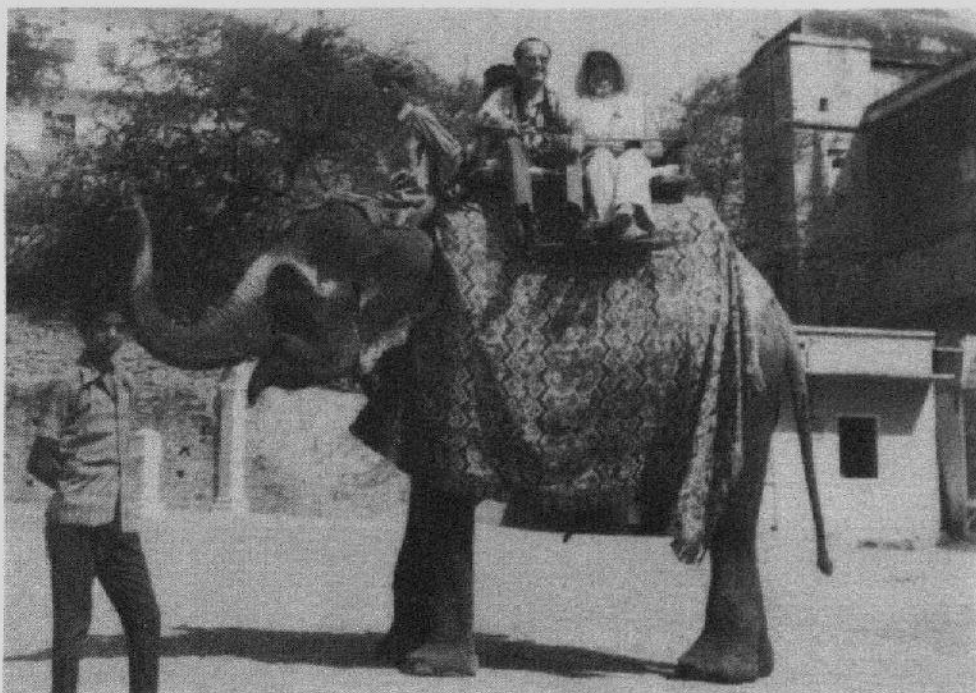
Two Schwinn Bicycles: both three speed, Man's-\$30, Woman's-\$25. Call 326-4800 afternoon or evening.

## Shoemobile visits Ames

The Safety Shoemobile will be at Ames July 22 and 23 (Monday and Tuesday). Here's another opportunity to buy those hiking or fishing boots before you go on vacation!

Remember, you are eligible to purchase your personal shoes at government cost. If you believe you are eligible to receive them free because of your occupation, check with your supervisor or branch chief or call the Safety Office, ext. 5602.

## The Holdens tour "the world"



ALICE AND GEORGE HOLDEN RECENTLY ENJOYED A ONE MILE ELEPHANT RIDE . . . in Amber, India while on vacation traveling around the world. Holden, Chief of the Simulation Experiments Branch, said he and his wife adapted quite well to the grand tour. He stated, "I highly recommend a trip such as ours . . . especially the African part of the expedition! Forty-seven days in some of the most interesting countries of the world was quite an experience and an education."

The couple saw parts of Hawaii, Hong Kong, Singapore, Bangkok, Bali, Ethiopia, Kenya, Tanzania and Athens. Holden would especially like to return to Japan. They traveled 29,000 miles by air, 650 miles bus and 640 miles by VW bus. Their helicopter trip over the Himalayas was the most spectacular part of the entire trip.